Chesapeake, VA Chesapeake Bay TMDL Public Meeting Summary

December 15, 2009

Hampton Roads Planning District Commission
723 Woodlake Drive
Chesapeake, Virginia 23320

AR0027754

Agenda

- **Welcome, introductions, and meeting logistics – Joan Salvati, VADCR (5 minutes)**
- **EPA presentation on the Chesapeake Bay TMDL and EPA expectations – Richard Batiuk and Bob Koroncai, EPA (40 minutes)**
- **Next steps – Al Pollock, VADEQ (15 minutes)**
- **Public comments, questions and answers – Panel moderated by Joan Salvati (60 minutes)**
- **Adjourn**

AR0027755

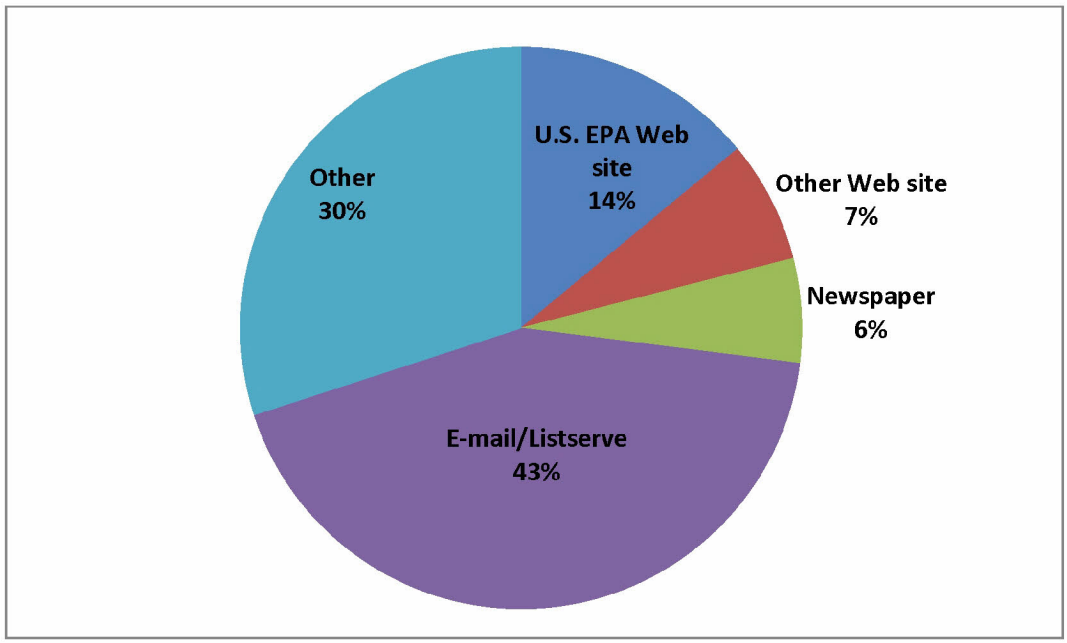
Attendee Detail

Total Live Attendees: 110

Registration Question:

How did you hear about this Meeting?

- E-mail/Listserve (43)
- Other (30)
  - DEQ (3)
  - HRPCD (3)
  - VTC (2)
  - CSWCD VA
  - Farm Bureau
  - Home Builders Association
  - other consultant
  - phone discussion
  - VGPA
- U. S. EPA Web Site (14)
- Newspaper (7)
- Other Web Site _____ (6)
  - Town Hall (2)
  - DCR



THE CHESAPEAKE BAY TMDL: Restoring Waters of Virginia and the Chesapeake Bay

Bay TMDL Public Meeting
December 15, 2009
Hampton Roads, VA

Richard Batiuk and Bob Koroncai
U.S. EPA Region III

AGENDA

- Welcome, introductions, and meeting logistics – **Joan Salvati, VADCR (5 minutes)**
- EPA presentation on the Chesapeake Bay TMDL and EPA expectations – **Richard Batiuk and Bob Koroncai, EPA (40 minutes)**
- Next Steps – **Al Pollock, VADEQ (15 minutes)**
- Public comments, questions and answers – **Panel moderated by Joan Salvati (60 minutes)**
- Adjourn

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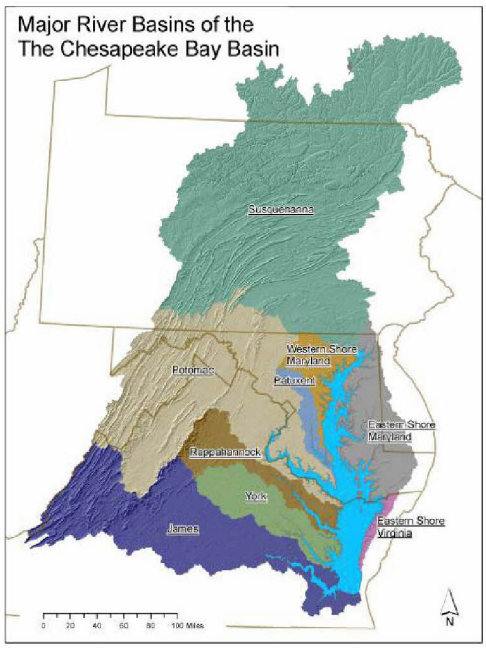
Panel to Address Public Comments

- VA Department of Conservation and Recreation: Joan Salvati, Moderator
- EPA: Richard Batiuk
- EPA: Bob Koroncai
- VA Department of Environmental Quality: Al Pollock



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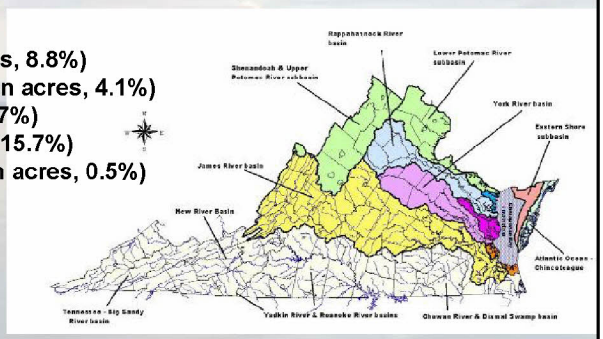
Local Water Quality Issues

Virginia's Chesapeake Bay Watershed River Basins

- About 34% of the Bay watershed is within Virginia - over 13.8 million acres
- Over 50% of Virginia drains to the Bay
- Five VA River Basins:
  - Potomac (3.6 million acres, 8.8%)
  - Rappahannock (1.7 million acres, 4.1%)
  - York (1.9 million acres, 4.7%)
  - James (6.4 million acres, 15.7%)
  - Eastern Shore (0.2 million acres, 0.5%)
- Virginia Land Uses
  - Agriculture – 22%
  - Urban – 12 %
  - Forest – 66%



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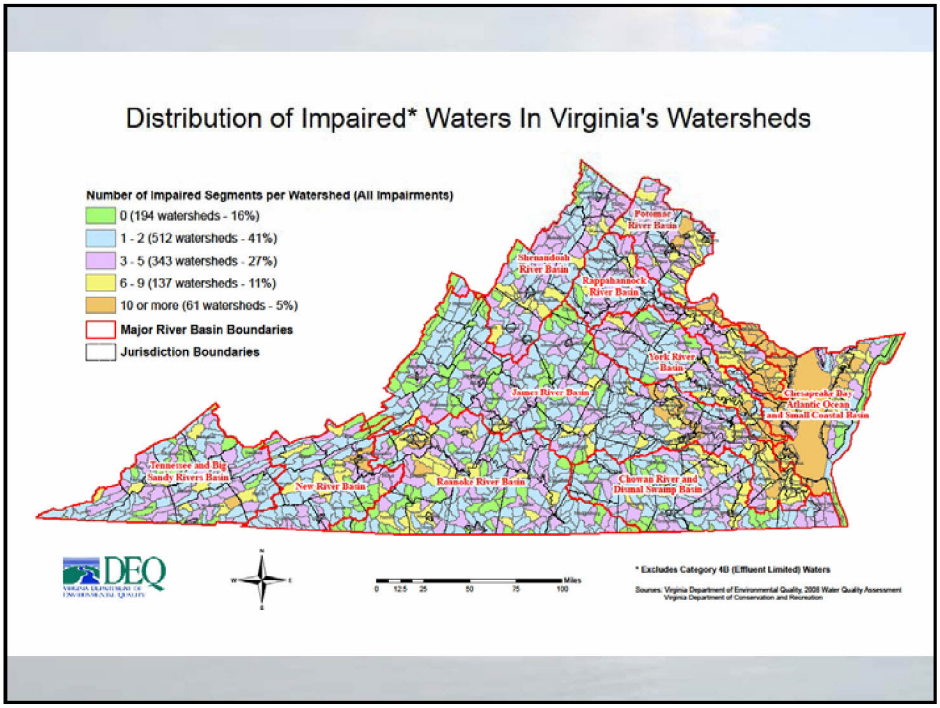
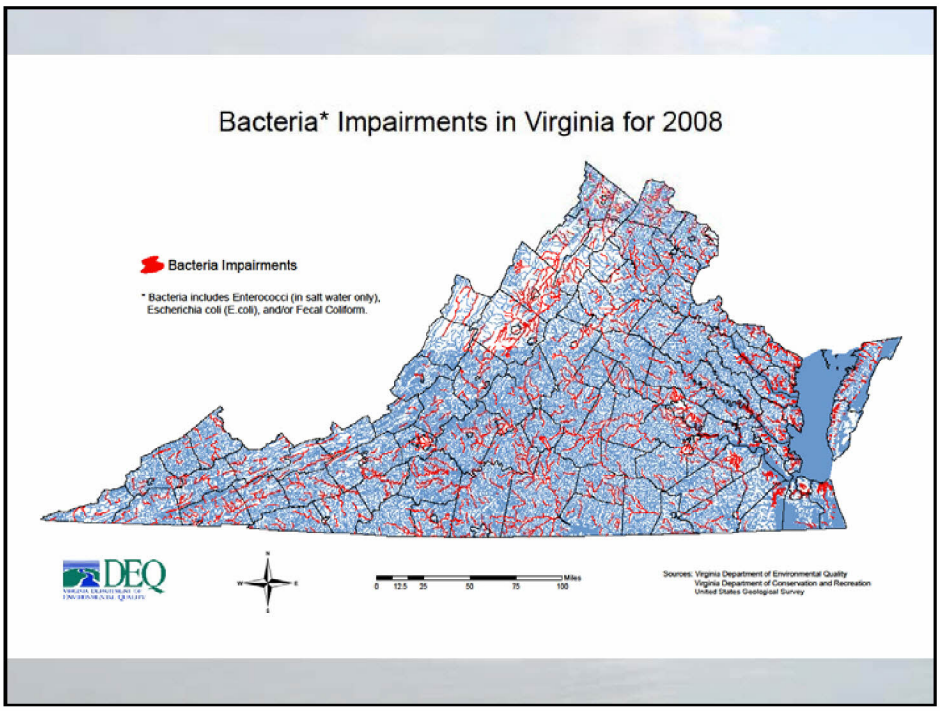

Distribution of Impaired* Waters In Virginia's Watersheds
Number of Impaired Segments per Watershed (All Impairments)
0 (194 watersheds - 16%)
1 - 2 (512 watersheds - 41%)
3 - 5 (343 watersheds - 27%)
6 - 9 (137 watersheds - 11%)
10 or more (61 watersheds - 5%)
Major River Basin Boundaries
Jurisdiction Boundaries
Potomac River Basin
Shenandoah River Basin
Rappahannock River Basin
York River Basin
James River Basin
Chesapeake Bay, Atlantic Ocean and Small Coastal Basin
Tennessee and Big Sandy Rivers Basin
New River Basin
Roanoke River Basin
Chowan River and Dismal Swamp Basin
DEQ
0 12.5 25 50 75 100 Miles
* Excludes Category 4B (Effluent Limited) Waters
Sources: Virginia Department of Environmental Quality 2008 Water Quality Assessment
Virginia Department of Conservation and Recreation


Bacteria* Impairments in Virginia for 2008
Bacteria Impairments
* Bacteria includes Enterococci (in salt water only), Escherichia coli (E.coli), and/or Fecal Coliform.
DEQ
0 12.5 25 50 75 100 Miles
Sources: Virginia Department of Environmental Quality
Virginia Department of Conservation and Recreation
United States Geological Survey

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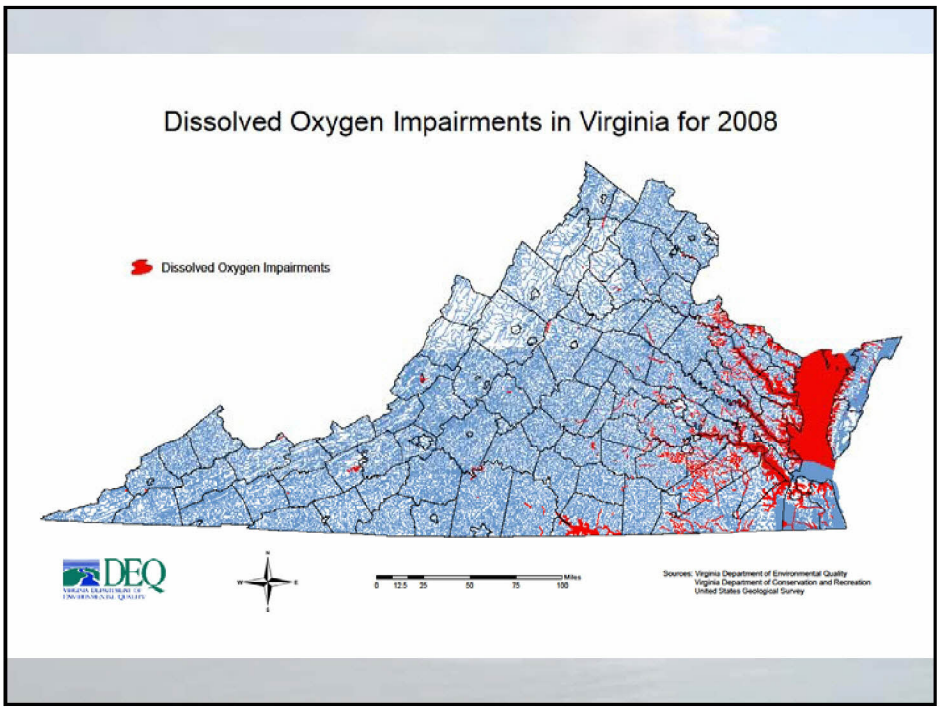
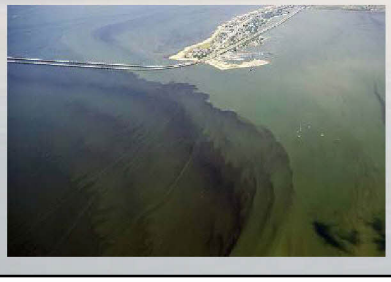
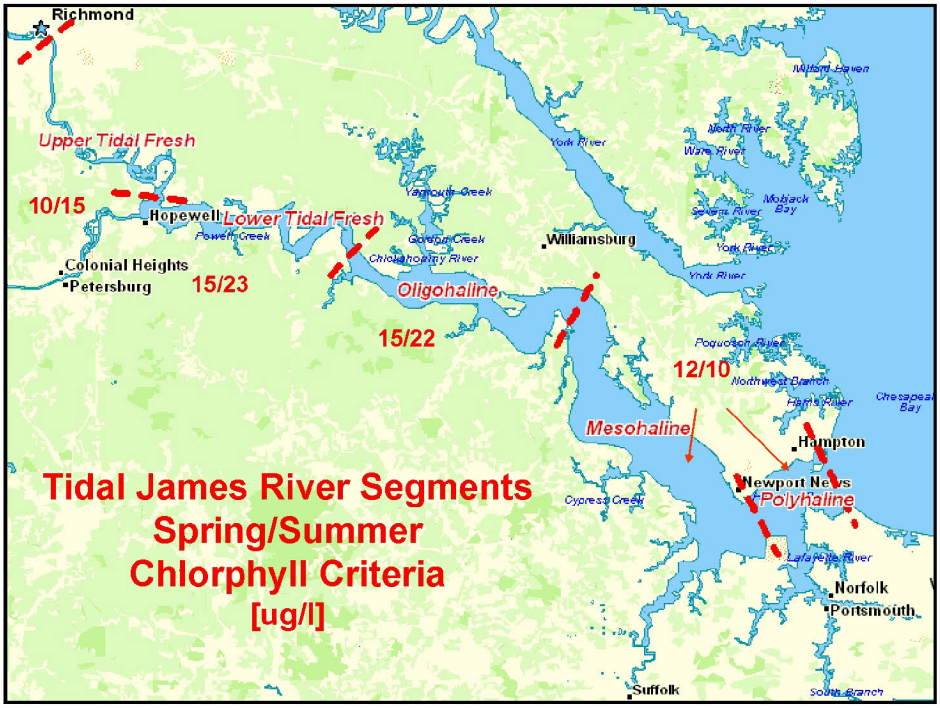


Special Case: James River

- The dissolved oxygen standards in the Bay and its tidal rivers are the basis for the working nutrient target loads being used to develop Watershed Implementation Plans in each Virginia river basin.
- However, the target loads in the James basin do not yet account for what will be needed to also meet the chlorophyll standards, which were adopted due to high algae levels in the tidal James River.





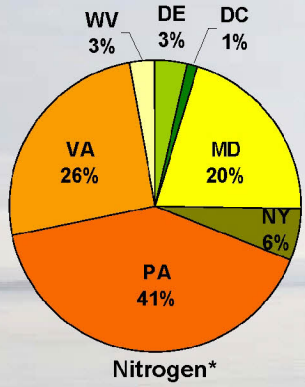
Chesapeake Bay
Water Quality Issues

Chesapeake Bay Watershed-
By the Numbers

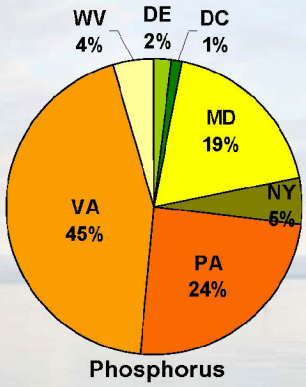
- Largest U.S. estuary
- Six-states and DC, 64,000 square mile watershed
- 10,000 miles of shoreline (longer then entire U.S. west coast)
- Over 3,600 species of plants, fish and other animals
- Average depth: 21 feet
- $750 million contribution annually to local economies
- Home to 17 million people (and counting)
- 77,000 principally family farms
- Declared "national treasure" by President Obama

Source: www.chesapeakebay.net

Nutrient Loads by State



Nitrogen*

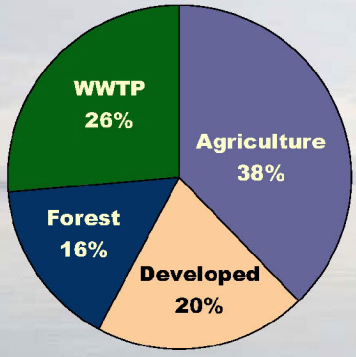


Phosphorus

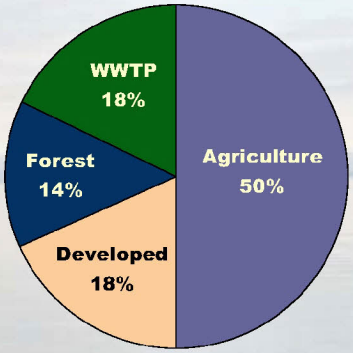
*EPA estimates a nitrogen load of 284 million lbs nitrogen in 2008. EPA assumes a reduction of 7 million lbs due to the Clean Air Act. This leaves 77 millions lbs to be addressed through the TMDL process.

Nutrient Sources of VA

Sources of Nitrogen from Virginia

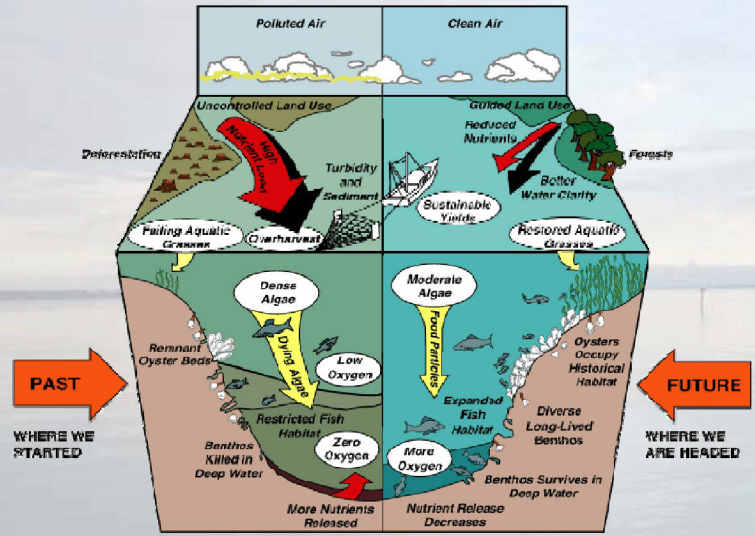


Sources of Phosphorus from Virginia



N and P values from 2008 Scenario of Phase 5.2 Watershed Model

Chesapeake Bay Health- Past and Future



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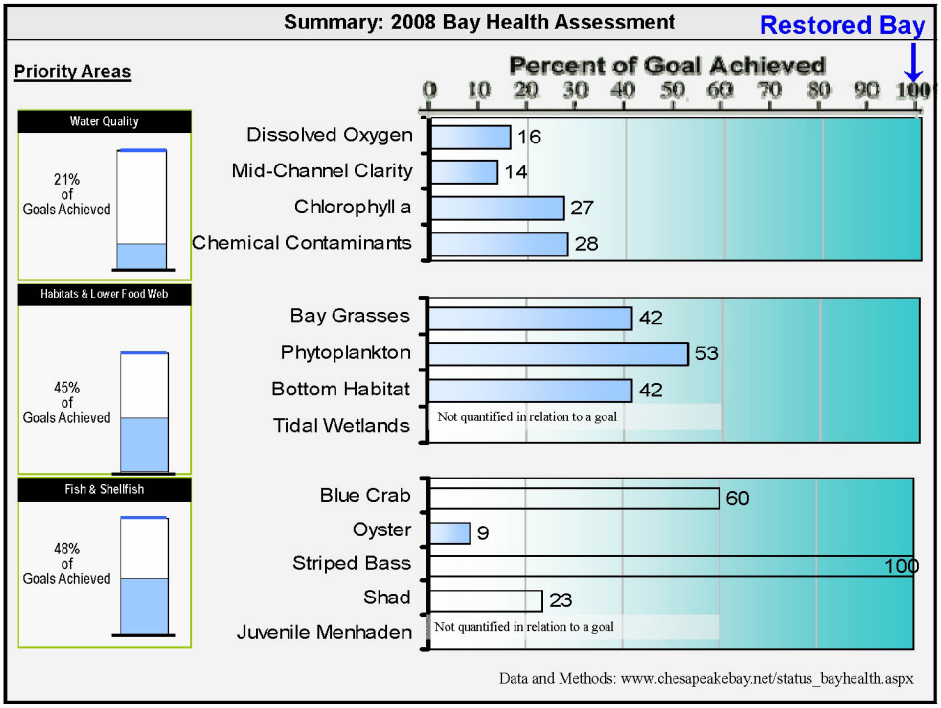
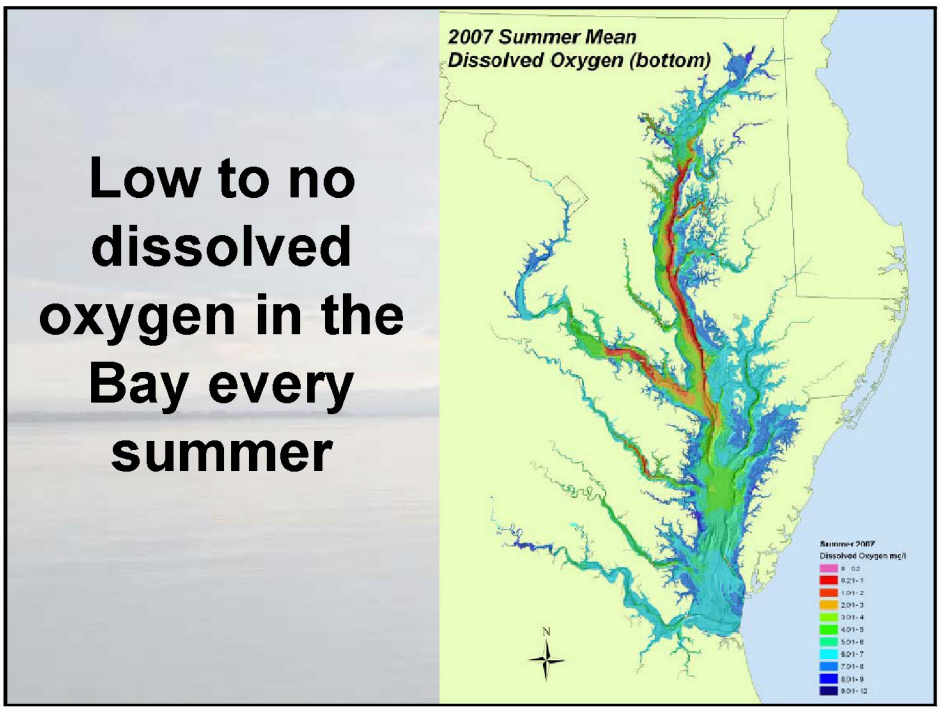

Summary: 2008 Bay Health Assessment
Restored Bay
Priority Areas
Percent of Goal Achieved
0 10 20 30 40 50 60 70 80 90 100
Water Quality
21% of Goals Achieved
Dissolved Oxygen 16
Mid-Channel Clarity 14
Chlorophyll a 27
Chemical Contaminants 28
Habitats & Lower Food Web
45% of Goals Achieved
Bay Grasses 42
Phytoplankton 53
Bottom Habitat 42
Tidal Wetlands
Not quantified in relation to a goal
Fish & Shellfish
48% of Goals Achieved
Blue Crab 60
Oyster 9
Striped Bass 100
Shad 23
Juvenile Menhaden
Not quantified in relation to a goal
Data and Methods: www.chesapeakebay.net/status_bayhealth.aspx


Low to no dissolved oxygen in the Bay every summer
2007 Summer Mean
Dissolved Oxygen (bottom)
N

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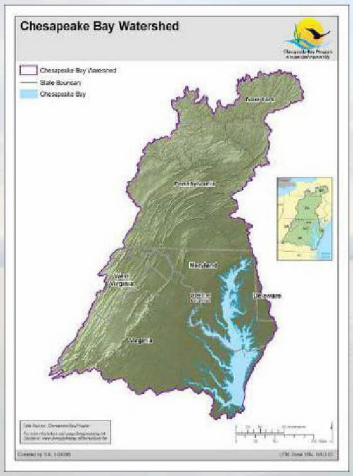
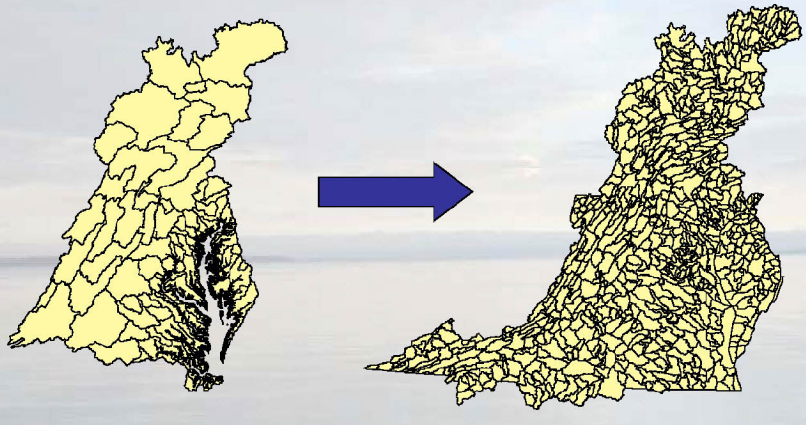
The Chesapeake Bay TMDL

- EPA sets pollution diet to meet states' Bay clean water standards
- Caps on nitrogen, phosphorus and sediment loads for all 6 Bay watershed states and DC
- States set load caps for point and non-point sources



The Bay science supports local pollution diets…



Phase 4 Bay Watershed Model
(2000-2008)

Phase 5 Bay Watershed Model
(2009-)

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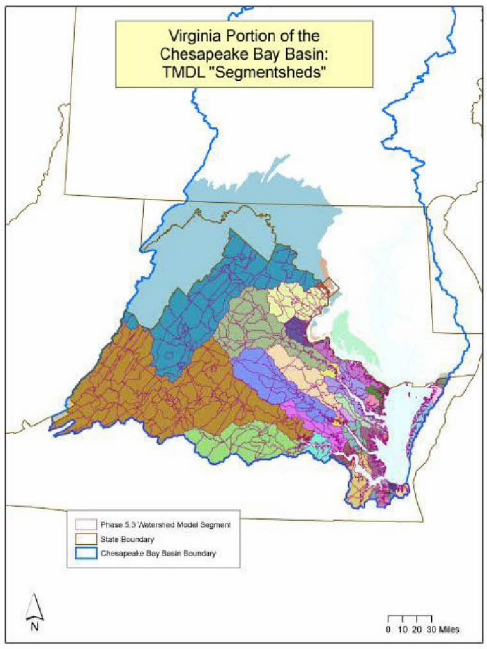
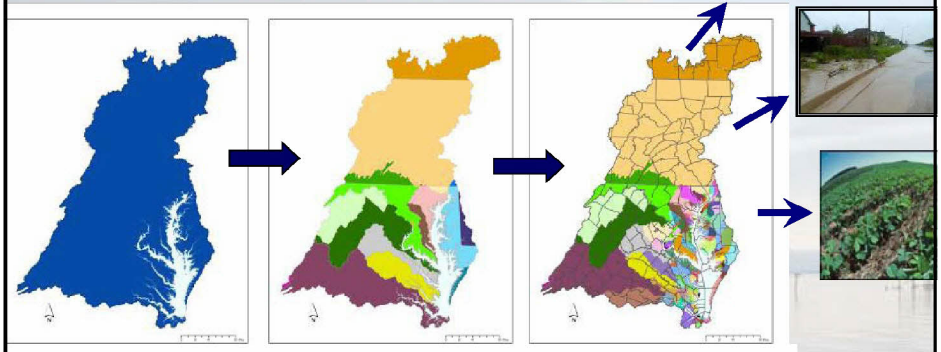
…with detailed representation of VA's local watersheds



Taking Responsibility for Load Reductions



Identify basinwide target loads	Identify major basin by jurisdiction target loads	Identify tidal segment watershed, county and source sector target loads
EPA, States, DC	EPA, States, DC	States, DC, local governments & local partners

AR0027767

What are the Target Pollutant Cap Loads for the Bay Watershed?

Current model estimates are that the states' Bay water quality standards can be met at basinwide loading levels of:

- 200 million pounds nitrogen per year
- 15 million pounds phosphorus per year

(Sediment target cap load under development-will be available by spring 2010)

Dividing the Basinwide Target Loading

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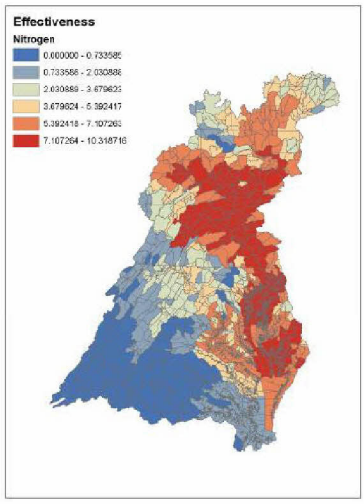
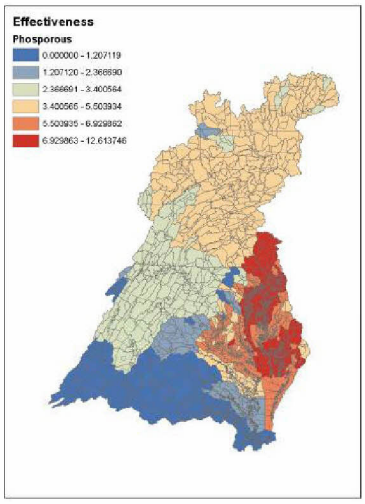
Guidelines for Distributing the Basinwide Target Loads

- Water quality and living resource goals should be achieved.
- Waters that contribute the most to the problem should achieve the most reductions (on a per pound basis).
- All previous reductions in nutrient loads are credited toward achieving final cap loads.

Nutrient Impacts on Bay WQ





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Current State Target Loads

Nitrogen

State	Tributary Strategy	Target Load
DC	2.12	2.37
DE	6.43	5.25
MD	42.37	41.04
NY	8.68	10.54
PA	73.48	73.64
VA	56.75	59.21
WV	5.93	5.71
Total	195.75	197.76

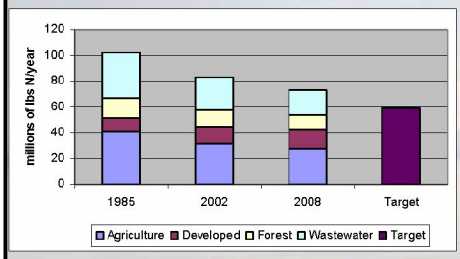
Phosphorus

State	Tributary Strategy	Target Load
DC	0.10	0.13
DE	0.25	0.28
MD	2.54	3.04
NY	0.56	0.56
PA	3.10	3.16
VA	6.41	7.05
WV	0.43	0.62
Total	13.39	14.84

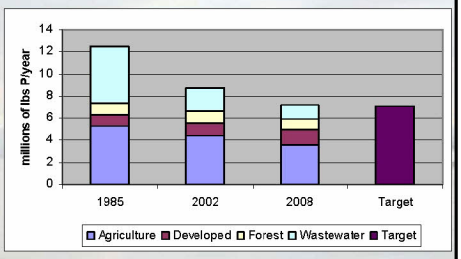
All loads are in millions of pounds per year.

Virginia's Past, Present and Future Estimated Loads

Nitrogen



Phosphorus



All scenarios run through Phase 5.2 Watershed Model

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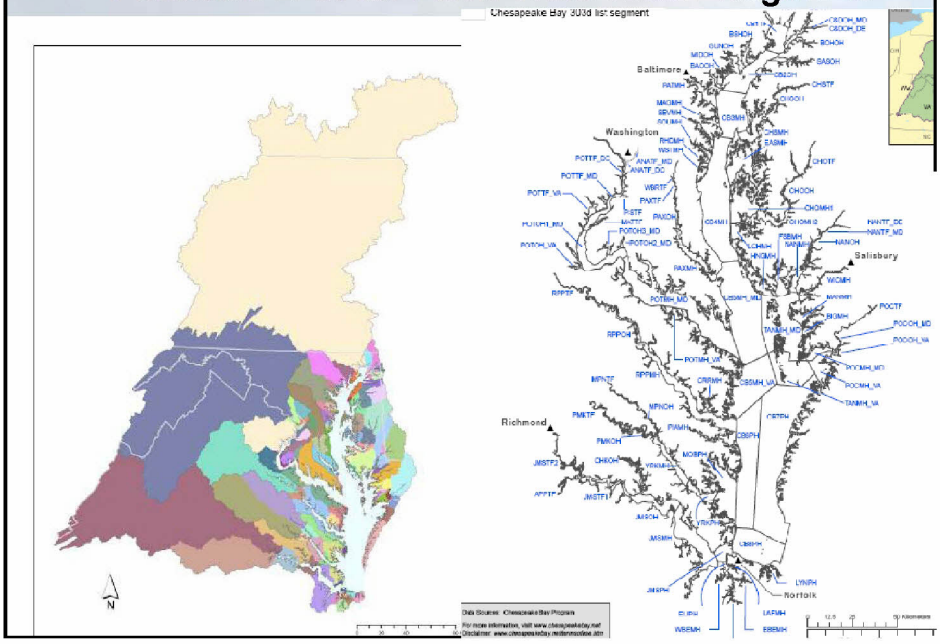
Target Load Refinements

- If States' Bay Water Quality Standards can still be achieved…
  - The State may exchange nitrogen and phosphorus target loads within a basin; and/or
  - The State may exchange nitrogen and phosphorus loads from one basin to another within the State.

Pollution Diet for Each Tidal Water Segment



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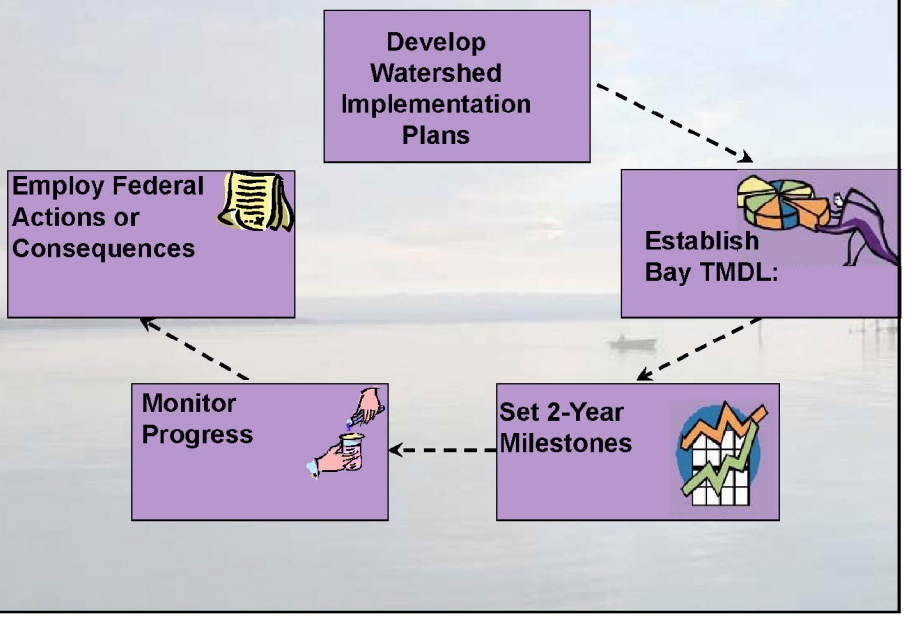
The Chesapeake Bay Performance and Accountability System

Mandatory Pollution Diet at Work



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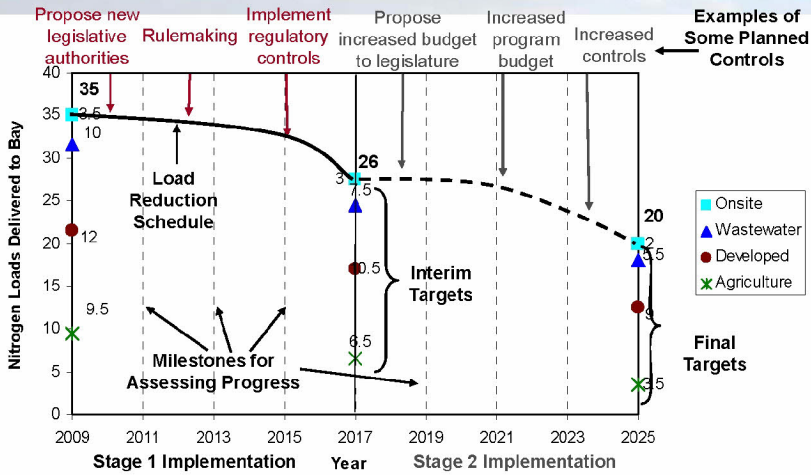
Example: Projected Nitrogen Delivery from Major Basin in Each Jurisdiction by Source Sector



- Also divide jurisdiction load by 303(d) segment drainage area and, by November 2011, local area
- Attain jurisdiction-wide load reductions by the interim target, or justify why can still meet final target
- Jurisdiction would determine desired 2-year schedule to meet interim and final target loads
- EPA first evaluates milestones based on consistency with jurisdiction target load. EPA accepts shifts among source sectors, basins, segment drainages, and local areas if jurisdiction target load is met and local and Bay water quality goals are achieved

Federal Consequences

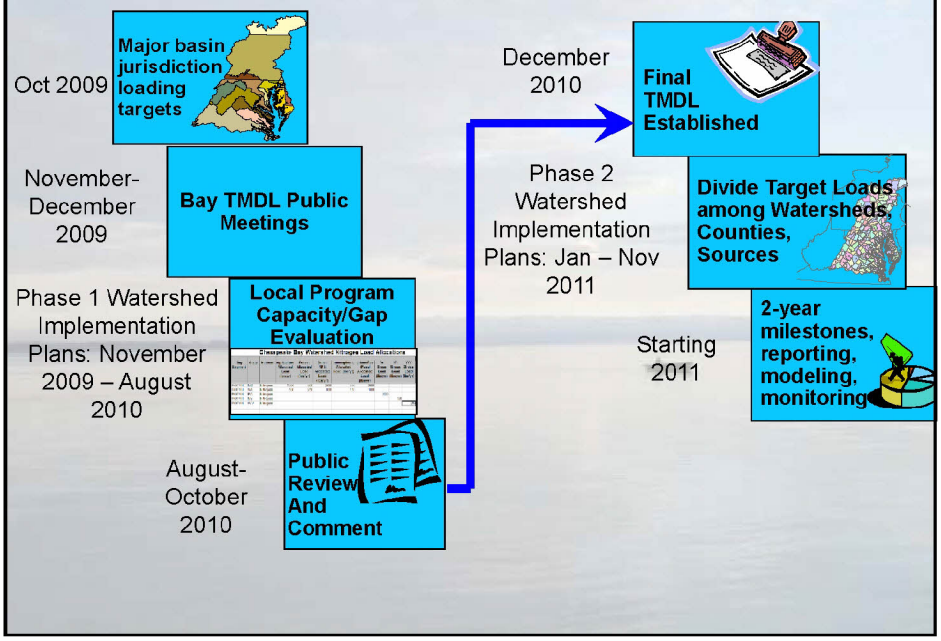
- Directed at states not achieving expectations
- Will be outlined in an EPA letter this fall. May include:
  - Assigning more stringent pollution reductions to regulated point sources (e.g., wastewater, stormwater, CAFOs)
  - Objecting to state-issued NPDES permits
  - Limiting or prohibiting new or expanded discharges (e.g., wastewater, stormwater) of nutrients and sediment
  - Withholding, conditioning or reallocating federal grant funds

AR0027773

Bay TMDL- Presidential Executive Order Connections

- Create Federal Leadership Committee
- Create the Performance and Accountability Framework
- Expand regulatory tools for CAFO's and urban and suburban runoff
- Improve nutrient and sediment controls on federal lands and roads
- Target farm conservation measures at high priority areas

Your Role in Bay TMDL Process



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Bay TMDL: Bottom-line

- Actions will clean and protect local waters in VA thereby supporting the local economy
- Restore a thriving Chesapeake Bay
- Federal, state, local officials and agencies will be fully accountable to the public
- Consequences for inaction, lack of progress

Further Information

- Chesapeake Bay TMDL web site
  www.epa.gov/chesapeakebaytmdl
- U.S. EPA Region 3 Contacts
  - Water Protection Division
    - Bob Koroncai
      - 215-814-5730; koroncai.robert@epa.gov
    - Jennifer Sincock (sincock.jennifer@epa.gov)
  - Chesapeake Bay Program Office
    - Rich Batiuk
      - 410-267-5731; batiuk.richard@epa.gov
    - Katherine Antos (antos.katherine@epa.gov)

AR0027775

Virginia's Approach to Developing the Chesapeake Bay TMDL Watershed Implementation Plan

Department of Conservation and Recreation
Department of Environmental Quality
Secretary of Natural Resources
Commonwealth of Virginia

December 2009

A Challenged Bay

- Loss of shellfish and finfish
- Habitat loss
- Annual dead zones
- Poor water clarity

Successes to Date

- Much has been done using voluntary, incentive based, and regulatory programs
- 1985 Loads
  - 102 million pounds Nitrogen
  - 12.4 million pounds Phosphorus
- 2008 Estimated Loads
  - 72.8 million pounds Nitrogen
  - 7.2 million pounds Phosphorus





The Challenge Ahead

- To meet water quality standards in the Chesapeake Bay and its tidal rivers, **there is more to do**
- Low hanging fruit – mostly gone
- Future reductions will be harder
- We all have a role

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What We Need to Achieve (and Maintain)

Virginia Bay Draft Initial Target Loads

- 59.2 million pounds Nitrogen
- 7.05 million pounds Phosphorus
- These targets are very likely to change

Load Uncertainties

- Initial draft target loads provided by EPA based on dissolved oxygen **only**
- Impacts on target loads from water quality standards for bay grasses, water clarity and other localized issues not yet determined
- Will be spring 2010 before target loads are adjusted for these factors

AR0027778

Vision for Virginia's Watershed Implementation Plan

- Focuses on "how" as well as the "how much"
- Equity between sectors
- Is relevant locally
- Uses adaptive management

Actively engage stakeholders and the public

- Virginia Bay TMDL Webinar (October 2009)
- Initial EPA Public Meetings (December 2009)
- Go to Individual stakeholder meetings (2010)
- Stakeholder Advisory Group (early 2010)
- Use Interactive web-based tools (Ongoing)
- EPA Public Comment Period (Aug. – Oct. 2010)
- Additional outreach as necessary

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A Challenging Timeframe

EPA deadlines:

Phase I – Draft allocations and state strategies

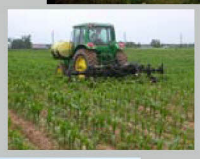
- June 1, 2010 - Preliminary phase I plan by source sector and impaired segment drainage area
- August 1, 2010 – Draft phase I plan
- November 1, 2010 – Final phase I plan

Phase II – Local target loads and action plans

- June 1, 2011 – Draft phase II plan
- November 1, 2011 – Final phase II plan submitted to EPA

Phase I – Draft Allocations by Source Sector and State Strategies

- State staff to consult with sector experts, then staff will develop projected BMP coverage levels
- Draft reviewed and refined following input by Stakeholder Group
- Used to derive potential nutrient and sediment load reductions and develop State strategies



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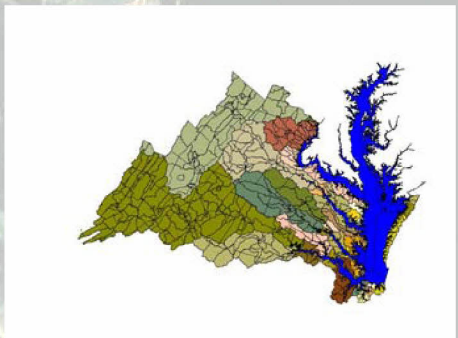
Phase I – Draft Allocations by Source Sector and State Strategies

Source Sectors

- Municipal and Industrial Wastewater
- Non-Significant Wastewater
- Municipal Combined Sewer Overflows [3 systems in VA]
- Industrial Stormwater
- Construction Stormwater
- MS4 Stormwater
- Non-MS4 Stormwater
- Confined Animal Feeding Operations (CAFOs)
- Agriculture – non CAFO
- Forest
- Atmospheric
- Onsite / septic systems

Phase I – Draft Allocations Made to Individual Watershed Segments

- State agency staff will distribute the allowable loads into the various impaired segments and among the various sources
- Land use data (cropland, developed land, etc.) along with BMP coverage projections and resulting load reductions will be used
- Draft reviewed and refined following input by Stakeholder Group



Virginia's 35 Bay Watershed Segments

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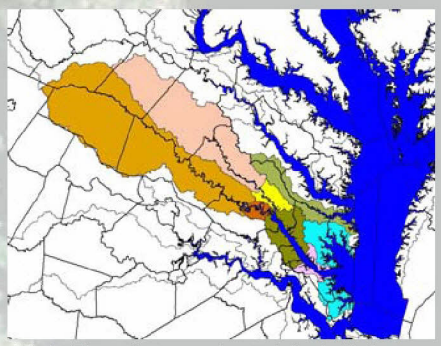
Phase II - Local Target Loads and Action Plans

- Will work closely with local stakeholders to identify specific controls and practices to be implemented
- Agencies will initiate work later in 2010
- Due by November 2011



York River Segments and Jurisdictions

2-Year Milestone Process

- Biennial Milestones –Use adaptive management; identify specific actions needed to maintain schedule
- Continue to engage stakeholders and public
- Monitor and evaluate progress
- Next milestone period – January 1, 2012 to December 31, 2013 to be completed with phase II plan

AR0027782

Want to find out more?

EPA

http://www.epa.gov/chesapeakebaytmdl/

VA-DEQ

http://www.deq.virginia.gov/tmdl/chesapeakebay.html

VA-DCR

http://www.dcr.virginia.gov/soil_and_water/baytmdl.shtml

Thank you for your participation.

That concludes today's meeting.

Questions Answered

Questions Answered (in the order in which they were asked):

Note: The letter indicates the source of each question. An "A" indicates that the question was submitted by the live audience. The cards were pre-numbered to easily identify the question once they were submitted. These questions are in the order in which they were asked. Some questions were rewritten for clarity.

A2: Has anyone quantified the pollutant reductions achieved east of I-95 in Virginia since 1989 when we established the Chesapeake Bay Preservation Act in 1989? If so, are we (east of I-95ers) getting credit in the modeling and subsequent target loading?

A42: What will Accomack County have to do to meet the TMDL requirements? How will this directly affect the county? (Jim McGowan, Accomack County, Eastern Shore)

A9: What happened to tidal wetlands? How are they "not related to the goal"? Where is climate change impact figured in? TMDLs are needed. We've obviously gotten as much as we can with voluntary measures and tightening point sources. (Skip Stiles, Wetlands Watch)

A17: We have been hearing a lot of general information about the Bay TMDL and how it will be developed. Could EPA, DCR or DEQ outline some of the specific actions that local governments will be expected to take in order to reduce nitrogen, phosphorus, and sediment? What can we expect the Chesapeake Bay IP to look like? What specific actions will be required from the agricultural industry (not CAFOs)?

A4: Virginia is currently considering Emergency Regulations addressing Alternative Onsite Sewage Systems. How will the TMDL process interact with these regulations/activities? How do you quantify the nitrogen load from septic systems? (Marty Schlesinger, Director of Public Utilities, Gloucester Count)

A13: Since the TMDL is only protective of the Bay and Potomac, how will the TMDL be protective of other local water bodies such as the Elizabeth River?

A37: What type of adaptive management will be in place if reductions do not translate into meeting water quality standards?

A1: The state is going to have to give localities authority to regulate sources such as fertilizer. What plans does the state have to get needed legislation implemented?

A3c: Will EPA have direct funding available to localities to develop watershed implementation plans?

A19: Would it not be more appropriate to represent pollutant loads as a range rather than a single number? This could take into account the variability of rainfall from year to year and future increases in stream flows as a result of increased impervious cover.

A18: What is DEQ's anticipated plan for enforcement of non-municipal wastewater treatment system permits? Will there be more stringent standards and improved inspections?

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A5: 'Phase 5 Bay Model' evaluates pollutant loads to the Bay (from major tributaries). What model/evaluation is being used to understand these pollutants' 'fate' once they enter the Bay?

A21: In urban areas, stormwater management is the biggest issue. Retrofitting for stormwater improvements is expensive. We can work to reduce the pollutants going into the stormwater system, but this will not solve the problem alone. Will there be funding opportunities for urban stormwater retrofit projects? We fully support this new TMDL process and its potential to make significant progress. (Karen Forget, Lynnhaven River Now)

A16: During Tributary Strategies, local governments and farmers provided input on BMPs installed and proposed. Many were apparently not counted because they were innovative (e.g. no till) or did not have EPA approved efficiencies (e.g. street sweeping). How will that considerable effort be counted in determining what else is needed and when we achieve it? (John Carlock, HRPDC)

A14: Given that Virginia has just passed revised stormwater requirements that are tied to the Bay TMDL and that the Bay TMDL has various targets based upon the 303(d) segment, is it likely that nutrient loading rates will vary by 303(d) segment?

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Questions Submitted

Questions Submitted (but not answered):

A3a: To establish the baseline for pollutant loading reductions achieved to date, what data will localities and states need to provide EPA to account for load reductions to date?

A3b: When will this data need to be provided and to whom?

A3d: What are VDCR's plans if an, to incorporate Bay TMDL standards in the Virginia Bay Act?

A3e: How will new ELG's be factored into sediment TMDLs by EPA?

A3f: Will DEQ or DCR drive the process in Virginia?

A12: The issue of spray nozzle being a source of pollution. If a permit is needed, the time it would take to obtain this permit may make the actual spraying to be too late for the problem. Example: Spraying for worms in soybeans. (Tommy Jones)

A38: Urban BMPs generally cost $20,000 per pound of phosphorus removed (if not more). It costs $50 to buy a bag of fertilizer with 10 pounds of phosphorus and 10 pounds of nitrogen. It seems logical that without controlling/regulating fertilizer we will continue to fight a losing battle. Why is EPA/DCR not fighting for this regulation?

A20: How are the recreational/pleasure horse owners responsible for the 50# of nutrient-rich manure and much more gallons of urine? They do not fall under USDA/NRCS or SWCD (conservation district) purview. (Scott Rae)

A15: Concerning alga farming, couldn't it help? Hinder – have no effect. Contingent on the effective use of alga/petroleum.

A36: How will the TMDL be enforced, by "load reductions" or "allocations?" If by allocation, how will standards be established to calculate if allocations are being met?

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Comments

The comments below have been paraphrased and are not a full transcription.

A6 Comment: I applaud the Chesapeake Bay TMDL effort as a vital component of an eco-system wide restoration for the Bay. A meaningful recovery can only be achieved through a regional effort that considers both large scale and small scale issues and challenges. Cooperation between federal, state, and local governments is essential to this success. While I am concerned about the effect of nutrient trading options within the proposed TMDL between basins, I am hopeful that segment TMDLs and tributary standards will be developed to eliminate the potential of this trading to degrade or destroy eco-systems within the Chesapeake Watershed. (David Burden, Virginia Eastern Shorekeeper)

Skip Stiles
We've squeezed what we can out of voluntary and it is time to look at regulations. We are now down to the next level that is going to be painful and costly. There are many other moving pieces to this – MS4s, Chesapeake Bay Preservation Act - phase 3, new regulations - it would be helpful for the state to help coordinate all of these pieces. Localities that are implementing these new pieces should also be getting credit for these. If someone could integrate these, it would help local governments make it fit.

Chuck Frederickson, River Keeper
We support EPA and the Commonwealth in this endeavor. We are also glad to hear the discussion of accountability and consequences. We have found that people more readily do what is inspected instead of just expected. We look forward to working with the state and EPA to craft a plan for the James River. We also plan to keep the pressure on for accountability and the consequences.

Christy Everett, CBF – Hampton Roads Office
I would like to thank EPA for this TMDL process. We see widespread algal blooms each year and the water clarity won't support submerged aquatic vegetation. Even if we go out and plant the grasses, the water quality will not support their growth. I look forward to a cap on pollution and to see the results not only in the Bay but in the local waters in Hampton Road.